

EXHIBIT 39

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Page 1

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF VIRGINIA
ALEXANDRIA DIVISION

UNITED STATES OF AMERICA, et al.,
Plaintiffs,

Case No. 1:23-cv-00108

v.

HON. LEONIE H. M. BRINKEMA

GOOGLE LLC,
Defendant.

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VIDEOTAPED DEPOSITION OF :

GABRIEL WEINTRAUB, PH.D.,
was held on Thursday, February 29, 2024, commencing at 9:49
a.m., at the Department of Justice, 450 Fifth Street,
Northwest, Washington, D.C. 20530, reported by Jeaninn Alexis,
Notary Public.

Job No. CS6464582

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Page 2	Page 4
<p>1 A-P-P-E-A-R-A-N-C-E-S:</p> <p>2</p> <p>3 On behalf of PLAINTIFFS:</p> <p>4 ISABEL AGNEW, ESQUIRE</p> <p>5 RACHEL HANSEN, ESQUIRE</p> <p>6 JULIA TARVER WOOD, ESQUIRE</p> <p>7 U.S. DEPARTMENT OF JUSTICE</p> <p>8 ANTITRUST DIVISION</p> <p>9 450 Fifth Street, Northwest,</p> <p>10 Washington, D.C. 20530</p> <p>11 (202) 552-9047</p> <p>12 EMAIL: rachel.hansen@usdoj.gov</p> <p>13</p> <p>14 On behalf of DEFENDANT:</p> <p>15 ANDREW J. EWALT, ESQUIRE</p> <p>16 TYLER GARRETT, ESQUIRE</p> <p>17 LIJUN ZHANG, ESQUIRE</p> <p>18 FRESHFIELDS BRÜCKHAUS DERINGER US LLP</p> <p>19 700 13th Street, Northwest,</p> <p>20 Washington, D.C. 20005</p> <p>21 (202) 777-4591</p> <p>22 EMAIL: andrew.ewalt@freshfields.com</p> <p>23</p> <p>24 JAMES K. HUNSBERGER, ESQUIRE</p> <p>25 AXINN, VELTROP & HARKRIDER LLP</p> <p>26 1901 L Street, Northwest,</p> <p>27 Washington, D.C. 20036</p> <p>28 (607) 591-0870</p> <p>29 EMAIL: jhunsberger@axinn.com</p> <p>30</p> <p>31 ALSO PRESENT:</p> <p>32 Warren Grey - Videographer</p>	<p>1</p> <p>2 Exhibit 13 A Framework for Dynamic Oligopoly in 215</p> <p>3 Concentrated Industries</p> <p>4</p> <p>5</p> <p>6</p> <p>7</p> <p>8</p> <p>9</p> <p>10</p> <p>11</p> <p>12</p> <p>13</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p>
Page 3	Page 5
<p>1 I-N-D-E-X</p> <p>2 Videotaped Deposition of Gabriel Weintraub, Ph.D.</p> <p>3 February 29, 2024</p> <p>4</p> <p>5 EXAMINATION BY: PAGE</p> <p>6 MR. EWALT 6</p> <p>7</p> <p>8 EXHIBITS: DESCRIPTION: PAGE</p> <p>9 Exhibit 1 Expert Report of Gabriel Weintraub, PH.D. 15</p> <p>10 Exhibit 2 Expert Rebuttal Report of Gabriel Weintraub, PH.D. 16</p> <p>11</p> <p>12 Exhibit 3 Expert Report of Gabriel Weintraub 16</p> <p>13 (December 22, 2023)--Errata</p> <p>14 Exhibit 4 Expert Report of Gabriel Weintraub 17</p> <p>15 (December 22, 2023)--Supplemental Errata</p> <p>16</p> <p>17 Exhibit 5 Expert Report of Gabriel Weintraub 17</p> <p>18 (February 13, 2024)--Errata</p> <p>19 Exhibit 6 Changes to Ad Manager Ad Mob auction 35</p> <p>20 Exhibit 7 Expert Report of Robin S. Lee 44</p> <p>21 Exhibit 8 Overall Pub Yield With DRS 83</p> <p>22 Exhibit 9 Summary 112</p> <p>23 Exhibit 10 Poirot V2.0 113</p> <p>24 Exhibit 11 Monthly Number of Publishers with One or 187</p> <p>25 More Impressions Sold Through AdX</p> <p>26</p> <p>27 Exhibit 12 Impressions 207</p>	<p>1 P-R-O-C-E-E-D-I-N-G-S</p> <p>2 THE VIDEOGRAPHER: Good morning. We're</p> <p>3 going on the record at 9:49 a.m. on February 29, 2024.</p> <p>4 This is Media Unit 1 of the video-recorded deposition</p> <p>5 of Gabriel Weintraub, taken by counsel for the</p> <p>6 plaintiff in the matter of United States, et al.,</p> <p>7 versus Google LLC, filed in the U.S. District Court</p> <p>8 for the Eastern District of Virginia, Case</p> <p>9 Number 1:23-cv-00108-LMB-JFA.</p> <p>10 The location of the deposition is the DOJ</p> <p>11 Antitrust Division Office, 450 Fifth Street,</p> <p>12 Northwest, Washington, D.C.</p> <p>13 My name is Warren Grey representing Veritext</p> <p>14 Legal Solutions. I'm the videographer. The court</p> <p>15 reporter is Jeaninn Alexis from the firm of Veritext</p> <p>16 Legal Solutions.</p> <p>17 Counsel, please introduce yourselves for the</p> <p>18 record.</p> <p>19 MR. EWALT: Andrew Ewalt from Freshfields on</p> <p>20 behalf of Google.</p> <p>21 MR. ZHANG: Lijun Zhang from Freshfields on</p> <p>22 behalf of Google.</p>

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<p style="text-align: right;">Page 194</p> <p>1 there's the understanding that more thickness in the</p> <p>2 sell-side, more publishers, more diversity of</p> <p>3 publishers, some important aspect of -- of an exchange</p> <p>4 because it provides alternatives and -- and -- and --</p> <p>5 and more options for buyers, for advertisers, I think</p> <p>6 quantifying that exact list is very complex. I</p> <p>7 believe I -- I personally didn't have the -- the data</p> <p>8 to do it and I haven't done it.</p> <p>9 BY MR. EWALT:</p> <p>10 Q Have you quantified how many advertisers an</p> <p>11 exchange must attract to be viable?</p> <p>12 MS. HANSEN: Object to the form.</p> <p>13 THE WITNESS: In -- in my report, I</p> <p>14 discussed the importance of thickness, adversity, and</p> <p>15 number of advertisers for an exchange because that</p> <p>16 allows publishers to monetize it even better. I</p> <p>17 discussed how the exclusivity into AdX provided a huge</p> <p>18 advantage for AdX by increasing that thickness and</p> <p>19 also, therefore, attracting publishers.</p> <p>20 Similar to the -- to the case that I just</p> <p>21 described, on the sell-side, quantifying this, because</p> <p>22 there's so much that's originated in complexity, I</p>	<p style="text-align: right;">Page 196</p> <p>1 I personally did not study cost data, like</p> <p>2 the exact quantification of cost data. You know, I</p> <p>3 discussed the sources of costs. It's like lenient</p> <p>4 costs, processing cost, but I did not study the</p> <p>5 quantification of this cost data to be able to give</p> <p>6 you a number. So directionally, I discussed, you</p> <p>7 know, the importance of impressions directionally in</p> <p>8 terms of profitability. I did not study cost data. I</p> <p>9 personally didn't have access to cost data to be able</p> <p>10 to quantify it.</p> <p>11 BY MR. EWALT:</p> <p>12 Q Is it fair to say you did not quantify how</p> <p>13 many impressions an ad exchange must transact to be</p> <p>14 viable?</p> <p>15 MS. HANSEN: Object to the form.</p> <p>16 THE WITNESS: So -- so in my report, I</p> <p>17 discussed directionally the importance of winging</p> <p>18 impressions for profitability and how denying rival</p> <p>19 scale affects profitability because there's a source</p> <p>20 of cost, which is processing cost, which increases</p> <p>21 lineally in the number of quarry or paying the cost,</p> <p>22 but you all need to get revenues when you win.</p>
<p style="text-align: right;">Page 195</p> <p>1 think it's hard. And I don't need to be like -- I</p> <p>2 have the data to do it and to even -- I -- I don't</p> <p>3 think I was able to do it.</p> <p>4 BY MR. EWALT:</p> <p>5 Q Have you quantified how many impressions an</p> <p>6 ad exchange must transact to be viable?</p> <p>7 MS. HANSEN: Object to the form.</p> <p>8 THE WITNESS: So with -- im- -- im- --</p> <p>9 impressions are now more directly related -- I guess</p> <p>10 thickness would be pa- -- implies more impressions.</p> <p>11 More impressions implies more revenues.</p> <p>12 I discussed in my report how denying --</p> <p>13 denying rival scales in terms of impressions affect</p> <p>14 their profitability because if your exchange</p> <p>15 typically -- the cost scale, you're paying that cost,</p> <p>16 but you only made revenues with impressions.</p> <p>17 So you could envision that, you know, of</p> <p>18 course, like more impressions would make an exchange</p> <p>19 more likely to be viable, according to your</p> <p>20 definition, and denying impressions to an exchange</p> <p>21 would make exchange less viable, according to your</p> <p>22 definition.</p>	<p style="text-align: right;">Page 197</p> <p>1 I did not study the cost structure of</p> <p>2 exchanges, so I cannot give you a quantification, a --</p> <p>3 a number, an exact number, the -- the one you're</p> <p>4 asking for.</p> <p>5 BY MR. EWALT:</p> <p>6 Q Did you quantify how much ad spending an</p> <p>7 exchange must transact to be viable?</p> <p>8 MS. HANSEN: Object to the form.</p> <p>9 THE WITNESS: So when it comes to ad</p> <p>10 spending, you know, you'll think of that as the</p> <p>11 revenue side of -- of the exchange. I mean, it's a --</p> <p>12 a -- a -- a percentage of that would be the revenue</p> <p>13 side of the ads that's spent.</p> <p>14 In my report, I discussed, again,</p> <p>15 directionally that gaining scale in terms of revenues</p> <p>16 will, in terms of spend, likely make you more</p> <p>17 profitable. Denying your scale of the -- the denial</p> <p>18 of an exchange scale would make -- would likely make</p> <p>19 the exchange more profitable. To come up with a</p> <p>20 number, which is what you're asking for, I would need</p> <p>21 to have access to the cost structure -- the cost</p> <p>22 structure of exchanges, which I did not study.</p>

50 (Pages 194 - 197)

HIGHLY CONFIDENTIAL

Page 258	Page 260
<p>1 THE WITNESS: So my understanding of the</p> <p>2 waterfall without -- for -- for now, without dynamic</p> <p>3 allocation, is that exchanges were ordered according</p> <p>4 to their average historical performance, you know, the</p> <p>5 average historical re- -- revenue for impression.</p> <p>6 When, you know, Google implemented dynamic allocation,</p> <p>7 First Look, I think, in practice, AdX was at -- at the</p> <p>8 top of the waterfall, and -- and the First Look</p> <p>9 advantage is not only that. It's not only that AdX or</p> <p>10 the other exchanges would only even see the impression</p> <p>11 if AdX doesn't buy it, but also AdX is the only</p> <p>12 exchange that can compete with real-time bids.</p> <p>13 So the other -- you know, the other</p> <p>14 prices -- and just think of, like, the -- the highest,</p> <p>15 which is -- would be the first exchange after AdX.</p> <p>16 That acts as a floor for AdX, but it could happen that</p> <p>17 that exchange has a real- -- real-time bid that is</p> <p>18 higher than AdX but cannot win if AdX clears the</p> <p>19 impression.</p> <p>20 BY MR. EWALT:</p> <p>21 Q But AdX would only clear the impression if</p> <p>22 it was bidding higher than the value CPM of the next</p>	<p>1 possibility of being sold to two exchanges as to be --</p> <p>2 as compared to the possibility of being sold to only</p> <p>3 one exchange.</p> <p>4 A Ah, I see.</p> <p>5 Q So with --</p> <p>6 A And so then, yeah, I kind --</p> <p>7 Q Yeah, with that --</p> <p>8 A I -- I --</p> <p>9 Q -- understanding.</p> <p>10 A -- understand.</p> <p>11 And can you rephrase the question now that I</p> <p>12 understand?</p> <p>13 Q Let me try and repeat it.</p> <p>14 A Yeah.</p> <p>15 Q And see if you --</p> <p>16 A Okay. Yeah.</p> <p>17 Q Would an economist expect publishers to set</p> <p>18 higher reserve prices when they have two other options</p> <p>19 than when they have one other option?</p> <p>20 MS. HANSEN: Object to the form.</p> <p>21 THE WITNESS: So economic models, in</p> <p>22 general, you know, try to -- I'm guessing, maybe, try</p>
Page 259	Page 261
<p>1 exchange in the waterfall; correct?</p> <p>2 MS. HANSEN: Object to the form.</p> <p>3 THE WITNESS: So AdX -- so Ad- --</p> <p>4 unnecessary condition for AdX to clear the impression</p> <p>5 is that its real-time bid is higher than the highest</p> <p>6 value CPM, and because I ordered -- and value CPM</p> <p>7 would be the exchange right after AdX, right, the</p> <p>8 va- -- the -- the value CPM would be average</p> <p>9 performance for that exchange. And -- and I just want</p> <p>10 to make a distinction that that's not the same as the</p> <p>11 real-time bid that that exchange has for that specific</p> <p>12 impression if we're talking about -- this is just the</p> <p>13 average historical --</p> <p>14 Q Would an economist expect publishers to set</p> <p>15 higher reserve prices when they have two other options</p> <p>16 than when they have only one other option?</p> <p>17 MS. HANSEN: Object to the form.</p> <p>18 Foundation.</p> <p>19 THE WITNESS: What -- what do you mean by</p> <p>20 one other option -- "other options"?</p> <p>21 BY MR. EWALT:</p> <p>22 Q I mean that if -- if an impression has the</p>	<p>1 to capture reality, and you make assumptions that you</p> <p>2 think much power is perfect, but, to some extent, with</p> <p>3 a judgment, the reality you're trying to model -- and</p> <p>4 when it comes to considering one or two exchanges down</p> <p>5 the line, I think that's an assumption. That's a</p> <p>6 choice of the model that we -- that -- that one makes.</p> <p>7 So I think your -- the answer to your</p> <p>8 question depends on what do you think is the better</p> <p>9 assumption is if you think publishers are optimizing,</p> <p>10 considering only the next exchange down the road or,</p> <p>11 like, maybe the two or three, whatever, there are.</p> <p>12 In my opinion, based on the evidence I</p> <p>13 revised, I think the assumption I made, which is when</p> <p>14 you're optimizing -- AdX's optimizing exchanges,</p> <p>15 optimizing is only looking at the next option, the</p> <p>16 next, as we are discussing, as opposed to every option</p> <p>17 down the road is more representative of the waterfall</p> <p>18 scenario. And -- and the reason for that is that</p> <p>19 there's evidence that we've seen in the rebuttal</p> <p>20 report.</p> <p>21 First, that there's a lot of evidence that</p> <p>22 Google suggests and that you should -- you know, you</p>

66 (Pages 258 - 261)

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<p style="text-align: right;">Page 262</p> <p>1 should order exchanges according to these value CPMs 2 that you were mentioning. You should put the highest 3 as a floor for AdX. That's -- that's just the next 4 one. The highest is a floor for AdX. Now, even if 5 you do that, there's a possibility that, then, 6 publishers themselves would provide this, like, 7 really -- would do, like, this really complicated 8 optimization, that they will be, like, so far looking 9 elsewhere, but I don't set in the next, I will send it 10 to the next one, and so on. I provide evidence. 11 And it's also my opinion that especially 12 before RPO was produced, so this is before 2015 where, 13 like, dynamic allocation has been operating for a 14 while, that assumption is not very realistic. Like, 15 the publishers were, like, manually changing prices 16 and -- the -- the problem of, like, solving this 17 forward-looking optimization is -- is hard. It's 18 complex. 19 So my opinion is that the assumption that 20 they're solving a simple problem -- and which, by the 21 way, is a very common simplification in the 22 literature, but this is called "dynamic programming."</p>	<p style="text-align: right;">Page 264</p> <p>1 work actually in display advertising because of the 2 algorithmic nature. So a lot of, like, when you 3 think -- when you look at the written re- -- like -- 4 like, revenue price optimization, a lot of that 5 literature is developed by operation of researchers 6 and computer scientists, not so much by economists 7 because it's very computational, even though, of 8 course, economists are going to develop the theory of 9 optimal research price. 10 But now I'm thinking about just, like, 11 really, they're really gritty of computing these 12 things in real time and so on. In that literature, in 13 the operation's research literature and the specific 14 programming, which is dynamic optimization, there's a 15 common assumption when the problem is too complex 16 which is just like a one-step look-ahead policy, which 17 is you just look at, like, one step ahead, and go, 18 which is essentially what I'm asking. 19 Q Is it also common in the operation's 20 literature to do a multistep look-ahead? 21 MS. HANSEN: Object to the form. 22 THE WITNESS: So I -- I think it dep- -- it</p>
<p style="text-align: right;">Page 263</p> <p>1 It just looks like one step ahead. I also said I 2 couldn't on that, that that assumption captures better 3 the potential behavior of publishers than the 4 assumption that -- the alternative assumption is 5 they're suggesting about, like, being completely 6 forward looking. 7 So going back, I was -- well, I'll if we're 8 going back -- what an economist would expect, I think, 9 depends on what they think, how they think publishers 10 optimize floors. I think that my assumption about 11 considering, like, one -- only one exchange ahead 12 is -- is closer to what was happening, especially 13 before, I think. 14 BY MR. EWALT: 15 Q You mentioned that it's common for 16 economists to do one-step look-ahead; is that right? 17 A So I mentioned that it's common. I didn't 18 mention the specific part about economists. I 19 mentioned that there's a literature, specially 20 operations research, that also is very -- you know, if 21 it -- it's a discipline. It's basically a developed 22 algorithms. There's a lot of operational research</p>	<p style="text-align: right;">Page 265</p> <p>1 depends on the problem and the complexity of the 2 problem. In this case, given the evidence I saw, I -- 3 my opinion is that the assumption of one-step 4 look-ahead is closer to reality than the assumption 5 of, like, multiple-steps look-ahead. 6 BY MR. EWALT: 7 Q And why -- why do you believe that the 8 assumption of one-step look-ahead is closer to reality 9 than the assumption of multistep look-ahead? 10 A So there's two main reasons: One is the 11 evidence -- I provide a lot of evidence that -- from 12 Google and other sources that the -- suggesting the 13 waterfall is to have your value CPMs order and then 14 take the highest, which is, like, the -- the option 15 right after AdX. I use that as a floor, that that 16 should be a floor for AdX. So -- so it's not saying 17 about the, like -- just take the highest, which is the 18 next section. So that's one -- one piece of evidence. 19 Now, granted that you could still -- like, 20 the publisher could still provide, like, some 21 complicated optimization based on -- on -- on these 22 floors and try to be, like, forward-looking, there's</p>

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<p style="text-align: right;">Page 266</p> <p>1 evidence that I also provide -- especially before RPO, 2 that was introduced in 2015, so First Look has been 3 running for a while, that publishers didn't have 4 gradeability to optimize reserve prices at the -- 5 we're doing, like, manual things. 6 It's very hard to believe, for me, that if 7 you're optimizing reserve prices manually and you're 8 doing these hacks, that you would have the 9 sophistication to solve a complicated dynamic 10 optimization problem. It's more -- to me, what's more 11 likely is that you will solve a simplification of the 12 problem that potentially just looks one step ahead. 13 Q Does your one-step look-ahead approach 14 involve the use of less information than would be 15 necessary to implement a multistep look-ahead 16 approach? 17 MS. HANSEN: Object to the form. 18 THE WITNESS: So when -- when you are -- 19 suppose you're, like, the first, like, on the top of 20 the waterfall, if you are using the one-step look 21 ahead to optimize your reserve price, you would only 22 need to know the value CPM of the next option. If</p>	<p style="text-align: right;">Page 268</p> <p>1 BY MR. EWALT: 2 Q But doesn't your First Look model assume 3 that publishers have the ability to do -- to solve an 4 optimization problem using the same information that 5 they would need to solve the multistep approach 6 optimization problem? 7 MS. HANSEN: Object to the form. 8 THE WITNESS: So what I'm saying is that in 9 my assumption, the -- the exchange from the top is 10 solving a simple optimization problem. So there is 11 some optimization going on, but it's a simple 12 optimization problem that if you were to assume this 13 multiple-step forward-looking behavior, in my opinion, 14 that simple optimization problem is based on the 15 evidences. So it's closer to reality relative to the 16 more sophisticated optimization problem. 17 MR. EWALT: All right. Let's take a break. 18 Off the record. 19 THE VIDEOGRAPHER: We're now off record at 20 6:26 p.m. 21 (Short recess taken.) 22 THE VIDEOGRAPHER: We're now back on the</p>
<p style="text-align: right;">Page 267</p> <p>1 you're im- -- if -- if you're implementing a 2 multiple-step-ahead policy, you would need to know the 3 value CPMs of all the options like that one. So the 4 multiple-step ahead would -- would use more 5 information. 6 BY MR. EWALT: 7 Q Wouldn't the publisher know the value CPMs 8 of all the options down the road? 9 MS. HANSEN: Object to the form. 10 THE WITNESS: So potentially, but I think 11 the question is, what does a publisher do with that 12 information? Like, does it have the sophistication to 13 implement the complex dynamic optimization problem, 14 which is this multiple-step ahead? 15 So -- so potentially, it has information, 16 but I -- but I think there's, like, a -- another 17 question on top of that, it's just they're relevant, 18 which is what I was referring to before, it's does the 19 publisher have the sophistication to use this 20 information to optimize reserve prices in this fully 21 forward-looking way, which, in my opinion, especially 22 for RPO, they -- they didn't.</p>	<p style="text-align: right;">Page 269</p> <p>1 record at 6:37 p.m. 2 You may proceed. 3 BY MR. EWALT: 4 Q In your reports, did you offer any opinion 5 about the effects of Google's acquisition of 6 DoubleClick? 7 MS. HANSEN: Object to the form. 8 THE WITNESS: I did not offer an opinion on 9 Google's acquisition. I discussed it -- let me be 10 more precise. I discussed and mentioned it, and -- 11 and then, you know, the -- the role it played on 12 Google acquiring the -- the exchange, the ad server. 13 And -- and then I offered an opinion on the 14 exclusivities that followed, the restrictions that 15 followed. So it's -- you know, the acquisition is -- 16 is -- is -- is -- is -- is described in my report, and 17 I guess, it's related to some of the things I -- I -- 18 I -- I -- I -- I described. 19 BY MR. EWALT: 20 Q In your reports, did you offer any opinions 21 about the effects of Google's acquisition of Ad Mound? 22 MS. HANSEN: Object to the form.</p>

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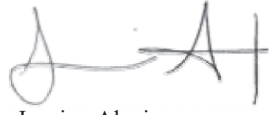
<p style="text-align: right;">Page 270</p> <p>1 THE WITNESS: In my report, I do not believe</p> <p>2 I offered an opinion on the effects of Google's</p> <p>3 acquisition of Ad Mound.</p> <p>4 BY MR. EWALT:</p> <p>5 Q In your reports, did you offer any opinions</p> <p>6 about the effects of Project Bernanke?</p> <p>7 MS. HANSEN: Object to the form.</p> <p>8 THE WITNESS: In my report, I discussed the</p> <p>9 precursor of Bernanke to the extent that data scale</p> <p>10 and data provides an advantage, and a denial of scale</p> <p>11 and data provides a disadvantage in implementing by</p> <p>12 algorithm. So I -- I -- I describe to that extent.</p> <p>13 BY MR. EWALT:</p> <p>14 Q Did you offer any opinions about the effects</p> <p>15 of Project Bernanke?</p> <p>16 MS. HANSEN: Object to the form.</p> <p>17 THE WITNESS: I did not, even though I</p> <p>18 mentioned it, an -- as an -- an -- an example of how</p> <p>19 data and the lack of data can help or hurt -- hurt a</p> <p>20 firm. I do not offer a specific opinion on the effect</p> <p>21 of Bernanke on rival scale.</p> <p>22</p>	<p style="text-align: right;">Page 272</p> <p>1 that there's a single bidder bidding into AdX; is that</p> <p>2 correct?</p> <p>3 MS. HANSEN: Object to the form.</p> <p>4 THE WITNESS: I assumed -- in my First Look</p> <p>5 model, I assumed there's a -- I believe I assumed</p> <p>6 there's a single bidder.</p> <p>7 BY MR. EWALT:</p> <p>8 Q Your model assumes that AdX is running a</p> <p>9 second price auction; is that correct?</p> <p>10 MS. HANSEN: Object to the form.</p> <p>11 THE WITNESS: I assume AdX is running a</p> <p>12 second auction.</p> <p>13 BY MR. EWALT:</p> <p>14 Q If there's only a single bidder bidding into</p> <p>15 a second price auction, then if that bidder won, it</p> <p>16 would always pay the reserve price; is that right?</p> <p>17 MS. HANSEN: Object to the form.</p> <p>18 THE WITNESS: If there's a single bidder in</p> <p>19 a second price auction, if that bidder won, it's</p> <p>20 correct, he pay the reserve price; yes.</p> <p>21 BY MR. EWALT:</p> <p>22 Q If there were multiple bidders bidding into</p>
<p style="text-align: right;">Page 271</p> <p>1 BY MR. EWALT:</p> <p>2 Q Do you offer any opinions about the effects</p> <p>3 of Project Bell?</p> <p>4 MS. HANSEN: Object to the form.</p> <p>5 THE WITNESS: It's late at night, and I'm</p> <p>6 getting a bit confused by the acronyms.</p> <p>7 Can you remind me what Project Bell is?</p> <p>8 BY MR. EWALT:</p> <p>9 Q Do you know -- let's ke- -- keep things</p> <p>10 moving on.</p> <p>11 Do you recall as you sit here offering any</p> <p>12 opinions in your reports about the effects of Project</p> <p>13 Bell?</p> <p>14 MS. HANSEN: Object to the form.</p> <p>15 THE WITNESS: I -- I may have mentioned</p> <p>16 Project Bell in my report. I -- I -- I -- I do not</p> <p>17 remember off the top of my head. I did not offer an</p> <p>18 opinion on the effect of Project Bell on rival scale.</p> <p>19 BY MR. EWALT:</p> <p>20 Q I'm going to reorient you back to the First</p> <p>21 Look model.</p> <p>22 So in your First Look model, you assumed</p>	<p style="text-align: right;">Page 273</p> <p>1 a second price auction, then the winning bidder would</p> <p>2 pay a price above the reserve price as long as another</p> <p>3 bidder was willing to pay above the reserve price; is</p> <p>4 that correct?</p> <p>5 MS. HANSEN: Object to the form.</p> <p>6 THE WITNESS: Right.</p> <p>7 If with multiple bidders in a second price</p> <p>8 auction, the winning bidder would pay the maximum</p> <p>9 between the second highest pay and the reserve price.</p> <p>10 BY MR. EWALT:</p> <p>11 Q So if there are multiple bidders bidding</p> <p>12 into a second price auction, you would expect</p> <p>13 publishers to earn more money than if there was only</p> <p>14 one bidder; correct?</p> <p>15 MS. HANSEN: Object to the form.</p> <p>16 THE WITNESS: So -- so, generally speaking,</p> <p>17 in a second price auction, you would expect a</p> <p>18 publisher -- this would depe- -- depend on certain</p> <p>19 assumption, but let's say, generally speaking, you</p> <p>20 would expect a publisher to make more money if there</p> <p>21 are more bidders.</p> <p>22</p>

HIGHLY CONFIDENTIAL

<p style="text-align: right;">Page 274</p> <p>1 BY MR. EWALT:</p> <p>2 Q By assuming that there's only one bidder in</p> <p>3 AdX, does your First Look model understate the</p> <p>4 benefits to publishers of AdX being added to the</p> <p>5 waterfall?</p> <p>6 MS. HANSEN: Object to the form.</p> <p>7 THE WITNESS: So my -- my model performs a</p> <p>8 different analysis than the one you're suggesting.</p> <p>9 That is the one that I think is appropriate to study</p> <p>10 First Look, which is that I compare that First Look</p> <p>11 and dynamic allocation with head-to-head competition.</p> <p>12 So head-to-head competition is trying to capture</p> <p>13 something like header bidding, which is what's --</p> <p>14 basically what rival exchanges with the solution of</p> <p>15 rival exchanges came up with to overcome AdX's First</p> <p>16 Look advantage.</p> <p>17 So in -- in head-to-head competition, then</p> <p>18 it's like -- basically, what you're doing is you</p> <p>19 add -- you are adding competition to -- to AdX. You</p> <p>20 are adding the dates, the real-time dates from the</p> <p>21 other exchanges, leveling the playing field, allowing</p> <p>22 them to compete with AdX in -- in -- in -- in real</p>	<p style="text-align: right;">Page 276</p> <p>1 BY MR. EWALT:</p> <p>2 Q How did First Look come about?</p> <p>3 MS. HANSEN: Object to the form and</p> <p>4 foundation.</p> <p>5 THE WITNESS: I -- I know how First Look</p> <p>6 works, which is AdX is at the top of the waterfall.</p> <p>7 Like, it has -- it's -- First Look advantage is the</p> <p>8 only exchange that can compete with real-time bids.</p> <p>9 I'm not opine- -- I don't know exactly what it was,</p> <p>10 the internal processing Google that led to the</p> <p>11 introduction of First Look.</p> <p>12 BY MR. EWALT:</p> <p>13 Q Do you think that Google did something</p> <p>14 after -- strike that.</p> <p>15 You understand that dynamic allocation was</p> <p>16 invented by DoubleClick; correct?</p> <p>17 MS. HANSEN: Object to the form.</p> <p>18 Foundation.</p> <p>19 THE WITNESS: My understanding is that --</p> <p>20 I'm not -- there's a version of the waterfall that</p> <p>21 DoubleClick implemented. I think dynamic allocation</p> <p>22 can mean -- can -- could mean many things. It's --</p>
<p style="text-align: right;">Page 275</p> <p>1 time.</p> <p>2 So there I'm considering multiple bids, and,</p> <p>3 basically, what I show is that, as we were discussing,</p> <p>4 as you're adding this, allowing other exchanges to</p> <p>5 compete in real time provides a big advantage for</p> <p>6 publishers relative to First Look and dynamic</p> <p>7 allocation.</p> <p>8 BY MR. EWALT:</p> <p>9 Q When did First Look begin?</p> <p>10 MS. HANSEN: Object to the form.</p> <p>11 THE WITNESS: I do not remember the -- the</p> <p>12 exact year.</p> <p>13 BY MR. EWALT:</p> <p>14 Q What caused First Look to begin?</p> <p>15 MS. HANSEN: Object to the form.</p> <p>16 THE WITNESS: What? Excuse me. What?</p> <p>17 BY MR. EWALT:</p> <p>18 Q What caused First Look to begin?</p> <p>19 MS. HANSEN: Object to the form.</p> <p>20 THE WITNESS: I'm not sure I understand your</p> <p>21 question, but ...</p> <p>22</p>	<p style="text-align: right;">Page 277</p> <p>1 it's a very broad term, so I -- it goes like a version</p> <p>2 of dynamic allocation that DoubleClick had</p> <p>3 implemented. I'm -- I'm not sure exactly what it was.</p> <p>4 That version, I would assume, it's related to some</p> <p>5 kind of waterfall structure.</p> <p>6 BY MR. EWALT:</p> <p>7 Q And is it your understanding that First Look</p> <p>8 is different than dynamic allocation as it was</p> <p>9 implemented by DoubleClick?</p> <p>10 MS. HANSEN: Object to the form.</p> <p>11 THE WITNESS: So I'm not sure what was the</p> <p>12 exact version of the Double- -- what was the exact</p> <p>13 implementation that DoubleClick had of dynamic</p> <p>14 allocation. So I'm not -- I'm not sure if I can</p> <p>15 answer the question.</p> <p>16 BY MR. EWALT:</p> <p>17 Q Did Google make any changes to dynamic</p> <p>18 allocation to create a Last Look?</p> <p>19 MS. HANSEN: Object to the form.</p> <p>20 Foundation.</p> <p>21 THE WITNESS: Changes to?</p> <p>22</p>

70 (Pages 274 - 277)

HIGHLY CONFIDENTIAL

<p style="text-align: right;">Page 278</p> <p>1 BY MR. EWALT:</p> <p>2 Q AdX or DFP.</p> <p>3 A So my understanding is that Google</p> <p>4 implemented -- it's like -- the -- the -- the First</p> <p>5 Look advantage when -- I -- I don't know the exact</p> <p>6 date, but -- but at -- at some point in time that</p> <p>7 Google implemented the First Look advantage to give</p> <p>8 AdX First Look in -- in the waterfall structure</p> <p>9 through dynamic allocation.</p> <p>10 BY MR. EWALT:</p> <p>11 Q And when did Last Look arise?</p> <p>12 MS. HANSEN: Object to the form.</p> <p>13 THE WITNESS: I -- I don't know the exact</p> <p>14 date when Last Look was introduced. My understanding</p> <p>15 is that it was also a feature of -- of dynamic</p> <p>16 allocation. And, yeah, there was also a feature of</p> <p>17 dynamic allocation. I don't know the -- I don't</p> <p>18 remember off the top of my head the exact date. I</p> <p>19 think -- I think it's in my report. I provide it.</p> <p>20 It's the dates I don't remember in -- I -- off the top</p> <p>21 of my head.</p> <p>22 MR. EWALT: Well, thank you,</p>	<p style="text-align: right;">Page 280</p> <p>1 (Short recess taken.)</p> <p>2 THE VIDEOGRAPHER: We are now back on the</p> <p>3 record at 7:01 p.m.</p> <p>4 You may proceed.</p> <p>5 MR. EWALT: We would like to designate</p> <p>6 highly confidential under the protective order.</p> <p>7 MS. HANSEN: We have no objection.</p> <p>8 MR. EWALT: Thank you.</p> <p>9 THE WITNESS: Thank you.</p> <p>10 THE VIDEOGRAPHER: This now ends the</p> <p>11 deposition. We're now off the record at 7:02 p.m.</p> <p>12 (Reading and signing reserved.)</p> <p>13 (Deposition concluded at 7:02 p.m.)</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p>
<p style="text-align: right;">Page 279</p> <p>1 Professor Weintraub, I think we've run out of time.</p> <p>2 I've got lots more questions for you. Maybe I'll have</p> <p>3 a chance to ask them some day.</p> <p>4 THE WITNESS: Yeah. Yeah. Thanks.</p> <p>5 MS. HANSEN: Let's go off the record.</p> <p>6 MR. EWALT: Oh, wait. Let's go --</p> <p>7 MS. WOOD: Oh, wait.</p> <p>8 MR. EWALT: -- off the record, then?</p> <p>9 MS. HANSEN: Sorry.</p> <p>10 MS. WOOD: We would -- we -- we do want to</p> <p>11 confer and perhaps redirect.</p> <p>12 MR. EWALT: Okay.</p> <p>13 MS. WOOD: Okay.</p> <p>14 MR. EWALT: All right. So we'll go off the</p> <p>15 record?</p> <p>16 MS. WOOD: We'll do that very quickly.</p> <p>17 MR. EWALT: And then you can come back in.</p> <p>18 MS. WOOD: Yeah.</p> <p>19 MR. EWALT: Sounds good.</p> <p>20 MS. WOOD: Okay. Thanks.</p> <p>21 THE VIDEOGRAPHER: We're now off the record</p> <p>22 at 6:51 p.m.</p>	<p style="text-align: right;">Page 281</p> <p>1 CERTIFICATE OF REPORTER/NOTARY PUBLIC</p> <p>2 DISTRICT OF COLUMBIA, to wit:</p> <p>3 I, JEANINN ALEXIS, a Notary Public in the</p> <p>4 District of Columbia do hereby certify that the</p> <p>5 within-named witness personally appeared before me at</p> <p>6 the time and place herein set out and after having</p> <p>7 been duly sworn by me, according to law, was examined</p> <p>8 by counsel.</p> <p>9 I further certify that the examination was</p> <p>10 recorded stenographically by me and this transcript is</p> <p>11 a true record of the proceedings.</p> <p>12 I further certify that I am not of counsel</p> <p>13 to any of the parties, nor in any way interested in</p> <p>14 the outcome of this action.</p> <p>15 As witness my hand and notarial seal this</p> <p>16 4th day of March, 2024.</p> <p>17 </p> <p>18</p> <p>19 Jeaninn Alexis,</p> <p>20 Notary Public</p> <p>21 My Commission Expires: January 14th, 2029</p> <p>22</p>

71 (Pages 278 - 281)